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INDIO

THE COLORADO DESERT FOR HEALTH

BY WALTER LINDLEY, M. D.,

Professor of Gynecology in the Medical College of the University of Southern
California, formerly President of the California State Medical
Society, etc., etc.

FROM

The New York Medical Record.

INDIO*

A Health Resort in the American Desert

BY WALTER LINDLEY, M. D.,

Professor of Gynecology in the Medical College of the University of Southern California,
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I recently read (*Eclectic Medical Journal*, Cincinnati) that an American of wealth was establishing a sanitarium in the valley of the River Jordan, near the Dead Sea. He ascertained that a bronchial affection was relieved where the barometric pressure was as great as it is in this valley of the Holy Land. This is the most marked depression on the face of the earth, being twelve hundred feet below sea-level. This gentleman makes the reasonable assertion that where atmospheric pressure is greatest, as in the depressions, respiration is easiest.

In the eastern part of Riverside County, about one hundred miles from Los Angeles, is a depression traversed by the Southern Pacific Railroad, known to geographers as the San Felipe Sink, but commonly called—on account of the innumerable shells spread over its surface—the Conchilla Valley.

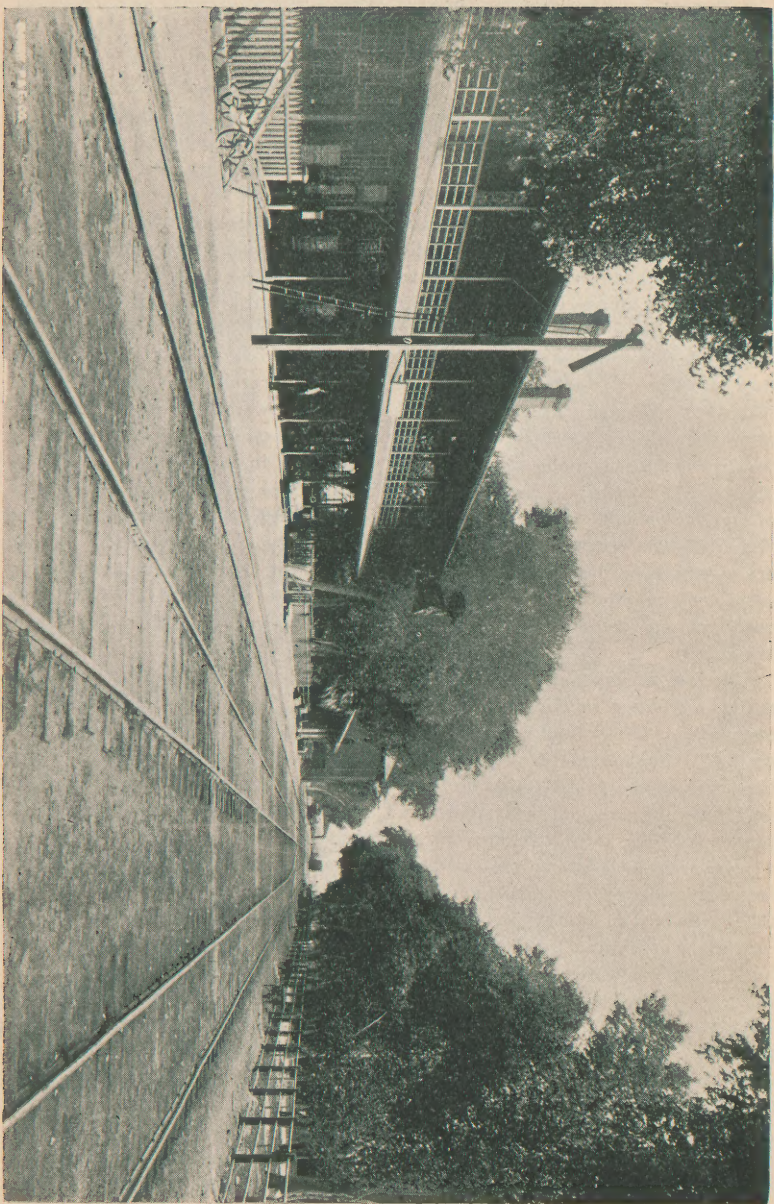
The unobserving transcontinental traveler over the Southern Pacific Railroad would travel the one hundred miles west of Yuma—on the Colorado River—without giving a glance out of the car window, but he would think he was in the Colorado Desert, and wish the train would go faster; yet this very spot is one of the most remarkable on the face of the globe.

Dr. J. P. Widney,† of Los Angeles, while surgeon in the United States Army, crossed this region with troops twenty-one years ago. He then noticed, surrounding this territory, a well-defined line along the mountain sides, always at the same level. Above that line the rocks are rough and jagged, showing that for ages the water had stood at that level. He says: "I found it to be the old beach of a sea." I find nothing else noted of this country until the surveying party of the Southern Pacific Railroad, in running the line from Los Angeles to Yuma, found that sea-level was at the point where Dr. Widney had noted the ancient beach. They then gradually descended to the south until they reached a depression of two hundred and sixty-eight feet below sea-level, at a point near Salton.

This basin is about one hundred and thirty miles in length by thirty miles in average width. The deepest point is about three hundred and sixty feet below sea-level. Along the northern margin of this basin, right up

* Published in New York Medical Record, 1888.

† See "California of the South," second edition, New York: D. Appleton & Co., 1888.



DEPOT AND HOTEL, INDIO.

against the mountains, are great numbers of date-palm. These tropical trees are indigenous to this valley, and many of them reach a height of eighty feet.

When ripe a single bunch of fruit weighs one hundred pounds. It has a taste very similar to the date-palm of commerce. The tree has large fan-leaves, and is the same as can be seen in almost every park and yard in the towns of Southern California. The passenger on the Southern Pacific Railroad by glancing out of the north side of the car at Indio can see these giant sentinels keeping silent vigil over the plains beneath them.

At Salton, on the Southern Pacific Railroad, the surface of the earth, for nearly ten miles square, is covered with a crust of salt from four inches to a foot thick. I stopped there in midsummer and went out on this great white field about noon. The mercury indicated 105° Fahrenheit in the house, but out in the sunshine, with the dazzling reflection from the glistening surface that extended for miles on each side, the temperature was probably 130° Fahrenheit. The workmen out in this peculiar harvest-field were as cheerful as any set of men I ever saw, and there was far less exhibition of suffering from heat than is to be seen, ordinarily, in July, in the wheat-fields of the Mississippi Valley. The low relative humidity explains the total absence of sunstroke here. The atmosphere in this region, adulterated by the chlorine gases emanating from the salt-beds, must be nearly aseptic. There are extensive mills here for grinding the salt. It is not put through any system of purification, but, after grinding, proves to be excellent for table use. Several hundred tons are thus prepared every month and shipped away.

A few miles east of here are the famous mud volcanoes, which are equal in wonder to the geysers of this State. Owing to the treacherous character of the ground around them, they have never been thoroughly examined. Professor Hanks, the State Mineralogist, undertook it, but breaking through the crust he was so severely burned that he was compelled to abandon his investigations.* Here is an extensive, almost unexplored field for some adventurous scientist.

Indio is the place to stop and make headquarters for tours through this interesting country. It is the principal station in the valley, and is near the northern rim of the basin, being only fifty feet below sea-level. The sandy plains around Indio were formerly considered a hopeless barren waste, but the advent of the railroad has made great changes. Good water is supplied by surface wells; but, in order to have water for irrigation, artesian wells have been bored. There is one two and three-fourths miles east of Indio that is now flowing one thousand gallons per hour. This flowing water was reached at a depth of only one hundred and fifteen feet, after boring through layers of sand, clay, sand, tough blue clay, clay, coarse gravel, clay, and sand.

Various kinds of fruit are being grown here, and melons, tomatoes and berries ripen several weeks earlier than at Los Angeles and other places

* Dr. Stephen Bowers in the "Golden State," March 3, 1888.



SUNSET P. & O.

COTTAGE AVENUE.

near the coast. There are in this vicinity about forty thousand acres of excellent land. The visitors here, on witnessing the water flowing from the artesian wells, the grass growing, the melons ripening, and the peach trees blooming, can fitly say with Isaiah: "The Lord shall comfort all the waste places. He will make the desert like the garden, and the desert shall rejoice and bloom as the rose. For in the wilderness shall water break out, and streams in the desert. And the parched ground shall become a pool, and the thirsty land springs of water."

In this valley live about four hundred of the Cohuilla Indians. This is an interesting tribe. Dr. Stephen Bowers, in a paper read before the Ventura County Society of Natural History, March 5, 1888, said that he believed them to be of Aztec origin. They are sun and fire worshipers, and believe in the transmigration of souls, and that their departed friends sometimes enter into coyotes, and thus linger about their former habitation. They practice cremation. Their principal article of food is the mesquite bean, which they triturate in mortars of wood or stone, after which the meal is sifted and the coarse portion is used as food for their horses and cattle, and the finer is made into cakes for family use.

The agave or century plant, which is indigenous here, is also much used for food. The roots, roasted, taste like stewed turnips, while the stem, roasted, is said to taste like baked sweet potatoes. From this plant they also make the Mexican beverage *pulque*, which has about the same alcoholic strength as beer. The ethnologist can, by gaining their confidence, get much interesting information from these very peaceable Indians.

I found at Salton and Indio asthmatics, rheumatics and consumptives, all of whom report wonderful recoveries. These asthmatics and consumptives claim that the farther they get below sea-level and the drier the atmosphere the easier they breathe. The rheumatics claim that the heat and dryness improves the circulation, and thus relieves them.

My stay was not long enough to make any trustworthy observations, but it occurred to me that, aside from dryness—mean annual relative humidity certainly not over twenty-five—and equability, there was considerable atmospheric pressure at a point three hundred and fifty feet below sea-level, and that we had here moderately compressed air on a large scale. In a recent paper* on the use of the pneumatic cabinet, the author in many cases in practice shows that compressed air relieves asthmatics and cases of phthisis. He says the compressed air will gradually force its way into every part of the lung, in order that the pressure may be the same on the inside as on the out. While the proportion of oxygen is, of course, not increased, yet there is an increased quantity in a given space, and we really have the oxygen treatment here on an extensive scale.

The physician may say that at from two hundred to three hundred and sixty feet below sea-level the pressure would not be as much as in the cabinet.

* Dr. H. B. Lathrop in "Southern California Practitioner," October, 1887.



A PALM GARDEN.

That is true, but the patient goes into the cabinet for, say half an hour, three or four times a week, while if he is at a point like Salton he is breathing this moderately compressed air all the time, day and night. This is simply on the principle of the pneumatic chamber of Tabarie, the first one ever employed. This is the method recommended by Dr. A. H. Smith.* He refers to the therapeutic value of the increased amount of oxygen inhaled. He says compressed air is useful in catarrh of mucous membrane, in acute and sub-acute inflammation of the respiratory mucous membrane, in restoring the permeability of air-tubes occluded by exudation or otherwise, in asthma, in pulmonary hemorrhage, in pleuritic effusion, in simple anæmia, in inveterate cases of psoriasis and ichthyosis, and in the various forms and stages of phthisis. He does not recommend it in pulmonary emphysema. Dr. Smith says compressed air should be used promptly and perseveringly on the earliest recognizable signs of apical catarrh in those predisposed to chest disease. He also especially recommends it as an alterative.

Of course my deductions are all tentative, but I hope, by calling attention to this unique region, to gain the assistance of intelligent observers.

If a phthisical or asthmatic patient of considerable vigor intends coming to Southern California, his physician might be justified in suggesting that—except during the summer months—he stop at Indio, and from there test the climate of this basin. If not suited or benefited, it is but two hours' ride by rail to Beaumont, a delightful resort, with excellent accommodations, two thousand five hundred feet above sea-level; but two hours more to the pine forests in San Jacinto Mountains, from six thousand to ten thousand feet above sea-level, or to Riverside, Monrovia, Pomona or Whittier, all about one thousand feet above sea-level; or to Los Angeles, three hundred and fifty feet above sea-level; or to Santa Monica, Long Beach, Santa Barbara or San Diego, directly on the coast, and but nine hours' ride by rail and boat to Catalina Island, twenty-five miles out at sea, where a typical ocean atmosphere can be enjoyed. Thus an error in location can be quickly corrected.

NOTE OTHER PLACES BELOW SEA-LEVEL.—*Sink of the Amargosa* (Arroyo del Muerto) in Eastern California, two hundred and twenty-five feet below sea-level. *The Caspian Sea*, eighty-five feet below sea-level. *Lake Assal*, east of Abyssinia in the Afar country, eight miles long and four miles wide, is about seven hundred and sixty feet below sea-level. Its shores are covered with a crust of salt about a foot thick. This salt is a source of revenue to the Afars, as they carry it by caravans to Abyssinia, where they find a ready market. There are several other depressions about six hundred feet below sea-level in this vicinity. The noted oasis Siwah, in the Libyan Desert, three hundred miles west of Cairo, is one hundred and twenty feet below sea-level. Here are beautiful date-palm groves, and here also the apricot, the olive, the pomegranate and the vine are extensively cultivated. In this same desert is the oasis Araj, two hundred and sixty-six feet below sea-level. There are also numerous other depressions in the desert portion of Algeria and at various points on the Sahara Desert.

* Smith, Andrew H.: *The Physiological, Pathological and Therapeutic Effects of Compressed Air*, Detroit: Geo. S. Davis, 1886.

INDIO. *

A Palm Forest in the Desert.

BY WALTER LINDLEY, M. D.

Indio, the central locality of the Colorado Desert, is situated in Riverside County, 127 miles from Los Angeles on the Southern Pacific Railroad. It is the most arid civilized town in America, the rainfall in 1890 being .73 of an inch. Of this amount .06 fell in February, .15 in April, .10 in August, .21 in September and .22 in December. In 1891 there fell 3.06, but this all fell in February and August, 1.91 having fallen in February, and 1.15 in August. In 1892 there fell 2.69 inches. Of this 2 fell in January, .33 in February, .22 in March. In 1893 there fell 3.59 inches. Of this .03 fell in January, 1.61 in March, .95 in May, .05 in July, .75 in August, .07 in September, .14 in November, thus making an average annual rainfall of 2.5 inches. Some idea of the temperature of this place may be gained from the following table for 1893. In January the lowest point registered by the thermometer was 35 degrees, the highest 90 degrees, and the mean temperature at 7 A. M., 45 degrees; at 2 P. M., 83; and at 9 P. M., 53. In February the lowest point reached was 40 degrees, and the highest 90 degrees. In March the lowest was 40 degrees, and the highest 101 degrees. In April the lowest was 50, and the highest 100. In May the lowest was 60, and the highest 103. In June the lowest was 70, and the highest 111. In July the lowest was 75, and the highest 116. In August the lowest was 78, and the highest 116. In September the lowest was 70, and the highest 113. In October the lowest was 50, and the highest 102. In November the lowest was 30, and the highest 90. In December the lowest was 30, and the highest 80. The altitude of Indio is 50 feet below sea-level. It is in the basin which lies from sea-level to 350 feet below sea-level, and of which the Salton Lake of two or three years ago was a portion. This lake was about 25 miles from the town of Indio. Indio has good hotel, post office, telegraph office, store, and an excellent water supply. Four miles from the town is an extensive grove of palm trees that are indigenous to this desert. In these forests here at Indio there are five hundred of these giant palms, standing far enough apart so that they do not lose their individuality. When in the midst of them, one feels as though he is surrounded by the giants of the story books of his childhood, and almost expects to see them suddenly walk away.

Almost all of these great palms have been burned around their bases. This has been done by the Indians. Some say that they burn these trees in order to cause the fruit to mature rapidly. The dates from these trees are much sought for by the natives, and yet they will ruin the trees in order to get this fruit early. Others say that they burn the trees believing that

* Read before the State Sanitary Convention at San Jose, April 16, 1891.



A TROPICAL RETREAT.

the aroma is gratifying and pleasant to the spirits of their departed friends. Whatever the cause, it is a great shame that these beautiful trees should be thus destroyed, and the Government should take some steps to protect this unique forest. With a little care, this palm grove in the midst of California's great desert could be made one of the most attractive points in America. There are in this grove a number of little palm trees springing up, and at their first appearance they simulate a blade of grass. An expenditure by the Government of a few hundred dollars annually to protect these little sprouting trees and prevent injury to the older ones would soon bring this remarkable place into a state of great beauty.

From Indio can be seen Mounts San Jacinto, San Bernardino and Grayback, on all of which there is snow the year round. Near the town is an Indian village inhabited by the tribe known as the Cohuillas, who are said to be vegetarians and cremationists.

About twenty miles from Indio are the Volcano Springs, and twenty-five miles away are the Salton Salt Works. In fact there are many things in this vicinity of interest, and one never grows tired of watching the varied tints of the mountains that surround this basin.

For many years I have seen indisputable evidences of the benefit derived from the climate of Indio. Persons suffering from rheumatism, asthma, phthisis and nervous prostration are all benefited. I do not mean that all persons suffering from these diseases are benefited, but that a large proportion of cases in all these diseases improve greatly at Indio there is no doubt.

The combination of aridity and high altitude injures the person suffering from overwork and nervous trouble, while the aridity with a low altitude soothes and rests, and thus benefits those who have been suffering from a nervous strain. The physician who has a patient suffering from insomnia can conscientiously send him to Indio. The nights are most delightful. It is the usual plan of the hotel to throw open all the windows and doors and practically sleep outside, and yet no person catches cold. The consumptive, who along the coast finds it necessary to protect himself from the night air, can sleep out with impunity. The physicians recommending patients to try Indio should caution them to first secure accommodations at the hotel, because there is always a far greater demand than they have room for. The principal owners of this town would show their wisdom by putting up a number of three-room cottages,* or say two rooms and a bath, so that the consumptive would not be annoyed by being brought in proximity to other invalids. These cottages could probably be built for three hundred dollars each, and would thus solve the problem of giving comfortable quarters for the patient without necessitating the exposure to the depressing influence that comes from other invalids, or, if the patient is a person of means, it might pay for him to build his own cottage, and the meals could be served from the hotel. The frail patient should not attempt

*Since the above article was read the suggestion has been acted upon, and a number of three-room cottages, with bath and other modern conveniences, have been erected.

to remain at Indio later than May and should not return before October, yet the sufferer from rheumatism, otherwise robust, might be benefited by remaining during the hot months. I have been out on this desert in midsummer and suffered very little inconvenience from the great heat. This is due to the dryness of the atmosphere. No sunstrokes ever occur, and the men work out in the hot sun during the very hottest of weather. In this locality, California has a health resort to compare with which there is no other place in the world. Its great advantages are, first, aridity ; second, mildness of temperature during the winter months ; third, equability of temperature ; fourth, excellent water supply ; fifth, good hotel accommodations ; and, sixth, satisfactory railroad facilities.